CLAIMS

The invention claimed is:

1.   A composition comprising $R_F(R_T)_nQ$, wherein:

the R_F group comprises at least four fluorine atoms;

the R_T group comprises at least one C-2 group having at least one pendant $-CF_3$ group;

n is at least 1; and

the Q group comprises one or more atoms of the periodic table of elements.

2.   The composition of claim 1 wherein the R_F group comprises at least one $-CF_3$ group.

3.   The composition of claim 1 wherein the R_F group comprises at least two $-CF_3$ groups.

4.   The composition of claim 3 wherein the R_F group comprises $-CF(CF_3)_2$.

5.   The composition of claim 1 wherein the R_F group comprises $-C_6F_{13}$.

6.   The composition of claim 1 wherein the R_T group comprises $\begin{matrix} -CH_2-CH- \\ | \\ CF_3 \end{matrix}$.

7.   The composition of claim 1 wherein n is at least 2 and the composition comprises $R_F(\underset{\underset{CF_3}{|}}{CH_2-CH}-CH_2-\underset{\underset{CF_3}{|}}{CH})Q$.

8.   The composition of claim 1 wherein n is at least 2 and the composition comprises

$R_F(CH_2-\underset{\underset{CF_3}{|}}{\overset{\overset{CF_3}{|}}{CH}}-CH-CH_2)Q$

9.   The composition of claim 1 wherein the Q group comprises a halogen.

10.   A composition comprising one or both of $R_F(\underset{\underset{CF_3}{|}}{R_1-CH})_nQ$ and $Q(\underset{\underset{CF_3}{|}}{R_1-CH})_nR_F$, wherein:

the R_F group comprises at least four fluorine atoms;

the R_1 group comprises at least one carbon atom;

n is at least 1; and

the Q group comprises one or more atoms of the periodic table of elements.

11.   The composition of claim 10 wherein the R_F group comprises at least two $-CF_3$ groups.

12.   The composition of claim 10 wherein the R_1 group consists of $-CH_2-$.

13.   The composition of claim 10 wherein n is equal to 1 and the composition comprises $R_F(\underset{\underset{CF_3}{|}}{R_1-CH})Q$.

14.   The composition of claim 10 wherein the Q group comprises at least one halogen.
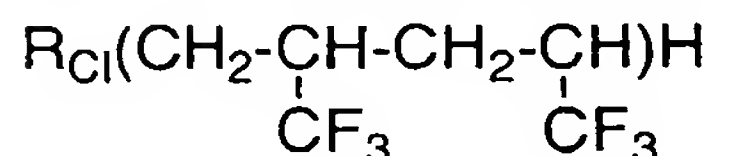
15. A composition comprising:

$R_{Cl}(R_T)_nH$, wherein:

    the R_{Cl} group comprises at least $-CCl_3$;

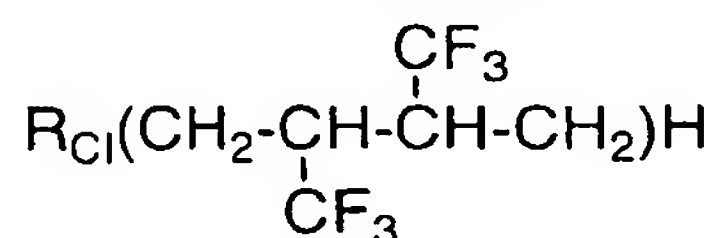   the R_T group comprises at least one C-2 group having at least one pendant -CF_3 group; and

    n is at least 1.

16. The composition of claim 15 wherein n is at least 2 and the composition comprises

$$R_{Cl}(CH_2\text{-}\underset{\underset{CF_3}{|}}{CH}\text{-}CH_2\text{-}\underset{\underset{CF_3}{|}}{CH})H \ .$$

17. The composition of claim 15 wherein n is at least 2 and the composition comprises

$$R_{Cl}(CH_2\text{-}\underset{\underset{CF_3}{|}}{CH}\text{-}\overset{\overset{CF_3}{|}}{CH}\text{-}CH_2)H \ .$$

18. A telomerization process comprising exposing at least one CF_3-comprising taxogen to a fluorine-comprising telogen to produce a telomer, wherein the fluorine-comprising telogen comprises at least four fluorine atoms.

19. The process of claim 18 wherein the CF_3-comprising taxogen is trifluoropropene.

20. The process of claim 18 wherein the fluorine-comprising telogen is $(CF_3)_2CFI$.

21. The process of claim 18 wherein the exposing the CF_3-comprising taxogen to the fluorine-comprising telogen is in the presence of an initiator.

22. The process of claim 21 wherein the initiator comprises a peroxide.

23. The process of claim 22 wherein the peroxide comprises di-tert-butyl peroxide.

24. The process of claim 22 wherein the exposing occurs within a reactor and the initiator and telogen are provided to the reactor, a mole ratio of the initiator to the telogen being between about 0.001 and about 0.05.

25. The process of claim 24 wherein the mole ratio of the initiator to the telogen is between about 0.01 and about 0.03.

26. The process of claim 19 wherein the exposing occurs within a reactor, a temperature within the reactor during the exposing being from about 130°C to about 150°C.

27. The process of claim 18 wherein:

    the CF_3-comprising taxogen is trifluoropropene; and

the telomer comprises $R_F(CH_2\text{-}\underset{\underset{CF_3}{|}}{CH})_nQ$, wherein:

        the R_F group comprises at least four fluorine atoms;

        n is at least 1; and

        the Q group comprises one or more atoms of the periodic table of elements.

28.   The process of claim 18 wherein:

the CF_3-comprising taxogen is trifluoropropene;

the fluorine-comprising telogen is $(CF_3)_2CFI$; and

a mole ratio of the taxogen to the telogen is from about 2:1 to about 4:1.